Dr. Farzad Mostashari

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Female: Welcome to Conversations on Health Care with Mark Masselli and Margaret Flinter, a show where we speak to the top thought leaders in health innovation, health policy, care delivery, global health, and the great minds who are shaping the healthcare of the future.

This week, Mark and Margaret would speak with Dr. Farzad Mostashari, Founder and CEO of Aledade, former National Coordinator for Health IT and share of the COVID-19 Symptom Data Challenge, a partnership with Facebook Data for Good and other organizations, Resolve to Save Lives, Catalyst @Health 2.0 as well as Duke, Carnegie Mellon in the University of Maryland. They're tapping into Facebook's two billion users to assist in creating a real time predictive tool for forecasting when COVID-19 outbreaks will occur.

Lori Robertson also checks in, the Managing Editor of FactCheck.org, looks at misstatements spoken about health policy in the public domain, separating the fake from the facts. We end with a bright idea that's improving health and well being in everyday lives. If you have comments, please email us at chcradio@chc1.com or find us on Facebook, Twitter, or wherever you listen to podcast. You can also hear us by asking Alexa to play the program Conversations on Health Care. Now stay tuned for our interview with Dr. Farzad Mostashari here on Conversations on Health Care.

Mark Masselli: We're speaking today with Dr. Farzad Mostashari, Chair of the COVID-19 Symptom Data Challenge, a partnership between Facebook Data for Good, Carnegie Mellon, Duke University of Maryland, Catalyst @Health 2.0 and Resolve to Save Lives. They're seeking a novel solution from developers using data from early detection of COVID-19 outbreaks.

Margaret Flinter: Dr. Mostashari was the National Coordinator for Health IT under President Obama. He was a fellow at the Brookings Institution, the Engelberg Center for Public Health. He served the New York City Department of Health under Tom Frieden, and prior to that, at the Centers for Disease Control Epidemiological Intelligence Service. Dr. Mostashari, we welcome you back to Conversations on Health Care.

Dr. Farzad Mostashari: Thank you.

Mark Masselli: Yeah, Farzad, welcome back, and really the outbreak of COVID-19 caught the world off guard from a regional epidemic to a global pandemic, and really getting reliable data on

outbreaks prove to be a real challenge for public health officials around the world. You chair their COVID-19 Symptom Data Challenge and it's a multi-stakeholder collaborative seeking really a new approach leveraging the power of social media to better predict the spread of coronavirus. I think our listeners like to know, maybe three things. One, tell us about the partners in the challenge. Then also the global participation already underway using the Facebook Data for Change portal, and finally, what are the breakthroughs you're looking to find in this new real time pandemic surveillance?

Dr. Farzad Mostashari: Yeah, I think it's worth reviewing what are our current data sources for being able to understand what's happening with the outbreak? That's obviously key. We have to tailor our approach to the level of activity in every state and locality. Ideally, there would be a national strategy, that would be clear, and there would be data that's clear to everybody. In the absence of that we're all having to make our own decisions. Do we open business? Do we go out? Do we send our kids to school or not? For that, we need data. What are the data that we are using?

If you go to any New York Times or any other dashboard to see how do we know what's going on with COVID? Well, one thing you can look at are deaths, we just passed the 200,000 death mark. The problem with deaths as an indicator of activity in the community is they're late. It takes weeks, and now up to 45 to 60 days before an increase in COVID will show fully in terms of the death. Deaths are a hard outcome, but they're much delayed.

The second is obviously looking at case counts. The problem with case counts is it depends on testing, and if you have different intensity of testing, if you don't have a design, in your testing program, if you don't have sentinel surveillance, where you're testing the same kinds of people repeatedly then you don't get reliable information from testing. We've seen as you know, all sorts of debates about whether the increased case count is a function of more testing or less testing or testing different people.

Then the third data source is a data source that I and others innovated about 20 years ago when I was in New York City Health Department, which is well let's just look at what's happening with hospitalizations or emergency room visits, and those have been quite useful but, again, limited when people change their behaviors. When they stopped going to the emergency or going to the doctor, going to the -- because

they're afraid of getting tested that can change our receptors as it were.

The idea here was and this was something that Carnegie Mellon proposed to Facebook back in March, and they stood it up beginning in April, is why don't we just ask people on a massive scale, have you had set any of these symptoms in the past 24 hours? They have collected 30 million survey results. Every week, there are surveys being answered by folks in every state and territory and in 70 plus countries across the world in 55 different languages, asking, answering the question, have you had symptoms? I think it's an incredibly promising data source. But it really hasn't been used as part of the one of the main pillars of us determining whether what's happening with COVID in the communities, and I think it's because it hasn't been validated.

This symptom challenge is basically putting the call out to citizen scientists around the world saying, here's the data, here is publicly available, aggregated counts by county week or by state, by day, by country, see what you can do with it, match it up against your understanding of what's going on, the best gold standards that we have today. See whether this is worth, giving us advanced notice compared to other sources?

Margaret Flinter: Well, there's a lot to look back on and critique about the way testing was rolled out in this country, the uncertainty that it led to about actual infection rates. I do think Americans are paying more attention to data and things like infection rates than I have ever seen the pay attention to about anything before. People can tell us what county of our state, where the rates are high, where the rates are low. Then we began as you know, measuring the pandemic in terms of deaths now crossing the 200,000 marked. You've said counting death is a lagging indicator of disease. Share with us a little bit about the COVID-19 map and dashboard. Is that part of this Facebook initiative or separate from this? What better indicators of disease do we find there? What are people saying when they respond to those survey questions?

Dr. Farzad Mostashari: Yeah, we think that it seems to be a leading indicator for sure of hospitalizations and deaths, and tracking super closely with cases and case positivity. There's an interesting proof point that just recently looking at the wildfires in the Pacific Northwest, and clearly seeing a big spike in people responding to the surveys in those states saying, yes, I'm having a higher incidence of cough, for example. When you look at Florida, in the months leading up to their big increase, where people are

saying, look, it's a Florida miracle, we know we can reopen, and there's not going to be an increase in cases. It was quite clear on the symptom surveys that there was an increase happening, so I think it's promising.

The other thing you asked is, well, what else can you find out from this? One of the other things you can do with symptom surveys is you can ask other questions like, are you a healthcare worker? Are you trying to social distance as much as possible? Did you get tested? Are you able to get tested? One of the just small observations from that was the vast majority of people who have symptoms that are quite consistent with COVID including loss of sense of smell or taste, the vast majority of them never get tested. I think that's a particular concern if we think that, for example, contact tracing is going to be one of our tools in the toolkit to stop the chains of transmission.

Mark Masselli: You've rounded up really a great crew of partners here Catalyst @Health 2.0, your old colleague in New York City, Dr. Tom Frieden's Resolve to Save Lives as well as the very prominent universities, Duke, University of Maryland, and the Carnegie Mellon. I'm wondering what types of data they've already extracted or insights they've gained from the data collected so far, or are you still at early stage? I know you were just finishing up phase one going into phase two of recruiting candidates to start looking at the data, but has there been any preliminary insights so far?

Dr. Farzad Mostashari: Yeah, we published some of the illustrative analyses, some of the preliminary analyses done by data scientists at Facebook, and Carnegie Mellon in particular who've done a really wonderful first cut of this, the basic findings I described, looking at the timing of increases, say, in Florida compared to others. Other indicators, the geographically looking to see that the tight correlation between states that have high levels of activity giving those traditional metrics compared to high levels of symptom survey.

The example I gave also of the smoke, the wildfires and smoke in the Pacific Northwest. There's a set of analyses of folks go to the website, www.symptomchallenge.org under illustrative analyses, you can read those and click on it. But the data is also publicly available, you can just download a CSV file, and you can do it in Excel, right, and take a look at your jurisdiction if you want to look at it by county week, or if you want to look at it by state by day. All those -- as you pointed out, all those folks who are more engaged than ever in data,

this is an incredibly rich data source for people to play with.

We are accepting still accept -- we haven't closed phase one yet in terms of receiving applications. We're actually -- I'll break it here, we are going to extend the period for people to be able to submit applications so there'll be a little bit more extra time for people to get their analyses done.

Mark Masselli: $5,000 for those that are selected, or –

Dr. Farzad Mostashari: The first five, yeah, the first five semi finalists will get $5,000 and then we'll present publicly. Then we will select the -- have an additional period where we'll work with them on visualizations and so forth. Then the final grand prize winner is $50,000 and second prize would be 25.

Mark Masselli: Wonderful.

Margaret Flinter: Well, that's great. Thanks for breaking that news here on Conversations. On a very serious note, there's a lot of tough news these days, but certainly for all of us in healthcare or public health, one difficult thing has been to hear about what seems to be a politicization of CDC, and really calling it to question whether this beacon of the gold standard for most of us whether we can rely on in the way we have based on what we're reading and hearing. You worked in disease surveillance at the CDC, what's alarming you about what's going on? What's at stake? What should the public know about how important it is that the CDC scientist voice be untarnished?

Dr. Farzad Mostashari: Yeah. Look, let me start with the good news. The good news is that there are thousands of, as you said, scientists with each with decades of experience who are the best in the world. Sometimes I'll go on Twitter, and I'll interpret some surveillance finding or play epidemiologist. I always feel like I'm not the one who should be doing this. There are people who were built in a lab to be doing this work, and yet we're not hearing from them. The problem isn't that we don't have expertise at CDC. The problem is that that their voices aren't being heard. I think it's something that can be fixed, and I hope will be fixed.

Mark Masselli: We're speaking today with Dr. Farzad Mostashari, Chair of the COVID-19 Symptom Data Challenge. Farzad, I want to pull the thread on the conversation about trust, and clearly Facebook has two billion users, willing users, but there are many who feel the data is being used for the benefit of other's profit. I'm wondering if you could talk about the privacy risk, and what Facebook is doing to ensure privacy is secured, and just sort of

the message to our citizen scientist about why this is so important for people to be engaged in and the work you're doing on the back end to ensure the safety of their information?

Dr. Farzad Mostashari: Yeah. Look, I can't comment on Facebook as an actor in so many other ways. But I can say that in terms of this Facebook Data for Good project, I think it is doing data for good and I do think they're doing it in a responsible way. Let me tell you a few of the things that are relevant for the listeners. This data that we're talking about here, the symptom data is not from scraping people's social media or anything like that. It's literally a banner ad that says do you want to take part in this survey from Carnegie Mellon? If they click on it, opt in, obviously voluntarily and they're taken to a screen where there's consent basically to take part in the survey, and they leave the Facebook ecosystem, leave the platform and go to Qualtrics where the surveys are done.

It's consent, it's voluntary, there's no information goes back or forth other than the consented individuals plus the survey sample plates that are get pushed to Carnegie Mellon University's Delphi Survey Research Group, which is a highly credible academic group. That's in terms of where the survey comes from, it's people willingly answering questions, consented, and with a, I think, a high security bar in terms of the Carnegie Mellon side.

The second part of it is, well, who has access to that information? The information that we're putting out of making publicly available is aggregated information. Minimum cell sizes rolled up to the county level or the state level, there's no identifiability there. If you're a university academic, you can apply to access the micro data and I understand that there are over a dozen university folks who have done that. But again, it's all done under what you would consider traditional IRB and academic research provisions.

Mark Masselli: Will it pop up on everyone's screen? Is it on everybody's Facebook feed?

Dr. Farzad Mostashari: They select a sample of people and say, hey do you want to participate in the survey? It's an ongoing offer to do it.

Mark Masselli: Great.

Margaret Flinter: Great. Well, Dr. Mostashari, one of the things that keeps us going through these challenging times is there's always some unanticipated advances, right, that come with these great

challenges. The acceleration of use of telehealth in primary care, behavioral health has certainly been one of those. But another one is really this possible game changer for primary care, and the ability to maybe aggregate real time data to really do a much better job of watching over our large cohorts of patients who have chronic illness, or we have needs for additional prevention and health promotion. A lot of practices have had trouble integrating data like that into their workflow. Do you want to opine a bit on how platforms like the Facebook Symptom Database could be modified to assist frontline providers such as primary care providers. You've done a lot of innovation in this area. We'd really be curious about some of the things you're excited about.

Dr. Farzad Mostashari: Yeah, look I -- moving away, stepping away from the Facebook Symptom survey, I think the point is, how do we get situational awareness of the greater world into clinical workflows? That's what you're really talking about.

Margaret Flinter: Yeah, well said.

Dr. Farzad Mostashari: For many years, decades, my hope was that electronic health records were going to be those tools for population health, that they were going to provide that visibility, 360 degree visibility, into the care of the patient, but also not just the people who are here today, where you're going to see and you're going to do a visit. But of your entire panel of patients who should you be worried about what's happening to them out there? When someone goes to the hospital, do you get notified? When someone leaves the emergency room, do you get a ping in your practice? Do you have workflows for then doing something with that information? If your patient doesn't fill a prescription, do you ever know about it? Do you ever have an opportunity to do something about it? That is the heart of population health.

Margaret Flinter: Right.

Dr. Farzad Mostashari: Then I don't think electronic health records, despite five years of our efforts, are going to be the tools to do that. What we've done at Aledade we support 550 practices across 30 states. They're on 90 different electronic health record and practice management systems. But they're using our tool to do population health work, and it's a single cloud based piece of software that does care management, panel management, work lists, and point of care and now telehealth as well, and just part of how we're able to get success at reducing hospitalizations. We save 10,000 hospitalizations last year. $180 million in savings for Medicare alone, and that's the key.

The key part of it is providing that information in context for population health purposes. We do provide as part of a small part of that, right, like COVID information for the individuals as well as for the communities, but it's just the tip of the iceberg.

Mark Masselli: Well, you're doing great work there and we've been following you for a long time. Remember that your work in New York City with electronic health records then the National Coordinator for Health IT. As the nation was really trying to shift over to electronic health records you oversaw the early adoption of meaningful use of technology, and you were a champion of the Health Datapalooza gallery in these tech enthusiast and developers ---

Dr. Farzad Mostashari: Open data.

Mark Masselli: Pardon?

Dr. Farzad Mostashari: Open data.

Mark Masselli: Open data, yeah, liberate data.

Margaret Flinter: Liberate data.

Mark Masselli: My pardon, right, Todd Park. I just wonder as you sort of look at sort of this inflection point we're at. If there's any silver lining people have been saying about the pandemic, I don't really believe there's been any, but there is ways that we're rethinking, re-imagining the delivery of healthcare, and leveraging technology, but probably also doing the things that you're doing now leveraging AI. How do you see -- what do you see the next five years looking like in the landscape with, I think, this robust adoption by people of telehealth, but also all of the folks who are coming in and trying to make real inroads on social determinants of health in other factors that are playing a role in the transformation that's happening now?

Dr. Farzad Mostashari: 2020 has been a pretty horrible year in many ways. But let's look for the bright spots. I'll pick three. One bright spot is just recognizing that healthcare can move darn fast, when it has to and regulators can move darn fast. I mean, what CMS did on an almost daily basis was extraordinary to help keep practices alive and afloat and to modify regulations with OIG, with OCR, with the payment side to enable telehealth to happen and then the response from healthcare providers to -- literally in 12 days, we went from 100 telehealth visits to 10,000 telehealth visits. We stood up 150 practices on telehealth over a weekend. You would have said that's impossible, right? That's the one bright spot is kind of recognizing we can still sprint when we have to.

The second bright spot I think was, as you mentioned this recognition that fee for service is actually not reliable and that we do need to, painful as it is, right we need to think about ways of moving off of -- you only get paid if someone walks in the door. I hope that in the next five years, we will see an embrace of value based care. That's even greater than the trends were before.

The third bittersweet recognition and just hard truth of 2020, in the aftermath of George Floyd was that we, all of us can't be bystanders. The fact that we're looking at racial disparities and deaths from COVID, we in our company are looking not only at how are we doing on the various things we're working on our core initiatives, but also what is the degree of racial disparities in those? We are committing to move to action to remove those and eliminate those racial disparities. These have been hard times for many of us and for many of our patients, our providers, our communities, but I do think that we have an opportunity to learn and grow from them.

Margaret Flinter: Well, thank you for calling out those three very important points. We've been speaking today with Dr. Farzad Mostashari, the Founder and CEO of Adelaide and Chair of the COVID-19 Symptom Data Challenge. You can learn more about this exciting work by going to www.symptomchallenge.org or you can follow Dr. Mostashari on Twitter @Farzad_MD. Farzad, we want to thank you for your decade's long dedication to innovation and public health and for joining us again today on Conversations on Health Care.

Dr. Farzad Mostashari: Thank you.

[**Music**]

Mark Masselli: At Conversations on Health Care we want our audience to be truly in the know when it comes to the facts about healthcare reform and policy. Lori Robertson is an award winning journalist and Managing Editor of FactCheck.org, a nonpartisan, nonprofit consumer advocate for voters that aim to reduce the level of deception in U.S. politics. Lori, what have you got for us this week?

Lori Robertson: President Donald Trump and Democratic Presidential Nominee Joe Biden have made competing claims about Biden's early statements on the coronavirus. Following the disclosure of comments he made to journalist Bob Woodward in March about downplaying the coronavirus, Trump has tried to turn the tables on Biden, claiming it was Biden who maintained through late February that the coronavirus was, "Not even

going to be a problem." That's not accurate. The former vice president warned early about the potential danger posed by the virus and about the need for a thoughtful response by the federal government.

At a February 28 campaign rally in South Carolina, Biden said the Coronavirus is, "A serious public health challenge." Conversely, Biden stretched the facts at a CNN Town Hall on September 17, claiming that in January, he wrote an op ad, "Saying we've got a pandemic, we've got a real problem." The op ad did not go that far. In it he warned about the possibility of a pandemic. He said Trump was not prepared to lead the country through a, "Global health challenge." Which Biden did predict would, "Get worse before it gets better." We reviewed all of Biden's public comments that we could find in early 2020 about the coronavirus. For more see our website www.factcheck.org. I'm Lori Robertson, Managing Editor of FactCheck.org.

Margaret Flinter: FactCheck.org is committed to factual accuracy from the country's major political players and is a project of the Annenberg Public Policy Center at the University of Pennsylvania. If you have a fact that you'd like check, email us at www.chcradio.com. We'll have FactCheck.org's Lori Robertson check it out for you here on Conversations on Health Care.

[**Music**]

Margaret Flinter: Each week Conversation highlights a bright idea about how to make wellness a part of our communities and everyday lives. If music soothes the savage beast, the question I want to answer at the Sync Project is how exactly? There are lots of anecdotal studies supporting music's ability to trigger memory or boost endurance or focus. But virtually nothing is known about how music truly impacts our physiological and neurological state. This is the question that intrigued scientist Ketki Karanam, a Systems Biology PhD from Harvard, who wondered how could music be scientifically harnessed as a powerful precision medicine tool? They formed the Sync Project with a cross-section of neuroscientist, biologist, audio engineers, even some rock stars like Peter Gabriel, and started by using artificial intelligence systems to analyze existing playlists that purport or promote relaxation induce sleep enhance focus or athletic performance.

Ketki Karanam: Once we have this set of songs that a machine learning algorithms predict to be effective for a specific activity, we can then go on studies using these devices like your heart rate

monitors, your smart watches, activity trackers and actually look at how effective indeed it is that song for that purpose.

Margaret Flinter: Karanam and her colleagues note that most of us self-medicate with music already, so why not harness this ubiquitous tool that's available to all of us and develop strategies and systems that might replace pharmacological interventions with musical ones.

Ketki Karanam: We're literally walking around with 14 million songs in our pocket every single day. We saw a great opportunity on really being able to understand how music was affecting us to measure how different types of music affect both our psychological health as well as the physiology.

Margaret Flinter: Karanam and her team seen vast potential for reducing reliance on drugs by crafting personalized music interventions and the management of a variety of complex conditions, such as pain management, PTSD, even Parkinson's disease.

Ketki Karanam: In Parkinson's disease, patients have trouble coordinating movements. By playing them the right kind of music, it can be an external auditory support they have that's going to help them walk more smoothly.

Margaret Flinter: The Sync Project combining computer technology and neuroscience, physiology and musicology to harness the healing powers inherent in music. Now that is a bright idea.

[**Music**]

Mark Masselli: You've been listening to Conversations on Health Care. I'm Mark Masselli.

Margaret Flinter: And I'm Margaret Flinter.

Mark Masselli: Peace and health.

[**Music**]

Female: Conversations on Health Care is recorded at WESU at Wesleyan University, streaming live at www.chcradio.com, iTunes, or wherever you listen to podcasts. If you have comments, please email us at www.chcradio@chc1.com or find us on Facebook or Twitter. We love hearing from you. The show is brought to you by the Community Health Center.